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Fermilab

Accelerator Division / RF Department / HLRF Group
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Booster Supply and Return
Watchdog Test Procedure

The Supply and Return Watch Dog Modules are standard NIM type modules. They require +/-24V and +6 for the interface electronics. The +/-15V power needed for the operational amplifiers is generate by two onboard regulators.

Watchdog Module Schematic Drawing Numbers
Watchdog Supply and Return Module DWG#: 0337.01-EC-63452

Bench Equipment Needed

1) NIM Crate with power supply.
2) Schematic DWG#: 0337.01-EC-63452
3) Bench Power Supply
4) Bench Oscilloscope
5) Digital Volt Meter with probes

Bench Check Out Procedure

1) Check out NIM Circuits Input Power supplies to the board from:
   Pin 28 = +24 Pin 29 = -24 Pin 10 = +6V Pin 34 = GND

2) Check out the onboard LM7**x**15 Voltage regulators (+/-15) Circuits Power supplies.

3) Adjust the +10 Volt AD2700 Precision voltage regulator for 10.0V at U3 (Pin13) or at (T.P Yellow).

4) Adjust R2 at U4 (Pin1) or at the (TP2-Gray Test Point) for 6.0 Volts for the Return Pressure of 60 PSI or 3.0 Volts for the Supply Pressure of 150 PSI. This is for the Higher Limit Trip.

5) Adjust Rx at U5 (Pin3) or at the (TP5-Purple Test Point) for 1.8 volts which is the Lower Limit Trip for a Supply pressure of 90 PSI. This is for the Lower Limit Trip for the Supply Module only, Return Module has no Lower Limit..

6) Place a 10.0V source on the input of the Supply/Return module.

7) Using a DVM, measure the analog output at U4 (Pin1) or at the (TP3-White Test Point) The output of this OP Amp should read 10.0V.

Sensors and Measuring Device Part Numbers

Supply Transducers: Setra Systems Model 205-2 0-500 PSI
Natick Mass USA

Return Transducers: Setra Systems Model 205-2 0-100 PSI
Natick Mass USA

Booster Acnet Parameters

Booster Tunnel

B:TLCWSP Tunnel 95 LCW Supply Pressure
B:TLCWRP Tunnel 95 LCW Return Pressure

Booster East Gallery

B:ELCWSP East 95 LCW Supply Pressure
B:ELCWRP East 95 LCW Return Pressure

Booster West Gallery

B:WLCWSP West 95 LCW Supply Pressure
B:WLCWRP West 95 LCW Return Pressure